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Claims of DE10128189

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1. Transport and/or storage device for workpieces with at least cross beam, which holding means to holding workpiece exhibits at least, whereby the cross beam by means of several support units, which are more displaceable are held along guide means, and whereby the cross beam is more displaceable at least in a direction parallel to the guide means, characterised in that each support unit (2, 3) prolonged-variable supporting means (28, 38) exhibits, whereby the cross beam (4) is more pivotable by means of the prolonged-variable supporting means (28, 38) around to longitudinal axis of the cross beam (4) an essentially parallel effect axle D.
2. Transport and/or storage device for workpieces according to claim 1, characterised in that the prolonged-variable supporting means (28, 38) an adjustment drive and/or an electric telescope drive and/or pneumatic or an hydraulic cylinder cover.
3. Transport and/or storage device for workpieces with at least cross beam, which holding means to holding workpiece exhibits, whereby the cross beam by means of several support units, which are more displaceable are held along guide means, and whereby the cross beam is more displaceable at least in a direction parallel to the guide means, in particular according to claim 1 or 2, characterised in that each inertial A UNIT (2, 3) several Führungsschlitten (21, 22, 31, 32) exhibits, whereby in each case Führungsschlitten (21, 22, 31, 32) a support unit (2, 3) along common, essentially rectilinear guide means (7, 8) is independently more displaceable.
4. Transport and/or storage device for workpieces after at least one of the preceding claims 1 to 3, characterised in that the guide means (7, 8) rectilinear guide rails exhibit, whereby the single guide rails (7, 8) are parallel to each other and in one to a longitudinal direction of the cross beam (4) normal direction aligned.
5. Transport and/or storage device for workpieces after at least one of the preceding claims 1 to 4, characterised in that the support units below the guide rails or around 180 DEG rotated above the guide means disposed are.
6. Transport and/or storage device for workpieces after at least one of the preceding claims 1 to 5, characterised in that each support unit (2, 3) a bracket (23, 33) exhibit, at least is partial received in which the cross beam (4), whereby the bracket (23, 33) of the support unit (2, 3) with everyone is Führungsschlitten (21, 22, 31, 32) of this support means (2, 3) connected by single connection means (24, 25, 34, 35).
7. Transport and/or storage device for workpieces according to claim 6, characterised in that the connection means (24, 25, 34, 35) rod-shaped formed are, whereby the connection means (24, 25, 34, 35) are effective as course and print bars.
8. Transport and/or storage device for workpieces after one of the claims 6 or 7, characterised in that the single connection means (24, 25, 34, 35) of an inertial A UNIT (2, 3) with the corresponding bracket (23, 33) of this support unit (2, 3) in a common hinge point (26, 36) articulated connected are.
9. Transport and/or storage device for workpieces after at least one of the preceding claims 6 to 8, characterised in that the prolonged-variable supporting means (28, 38) of the single support units (2, 3) between one Führungsschlitten (21, 22, 31, 32) and the bracket (23, 33) of this support unit (2, 3) formed is and essentially parallel to between this Führungsschlitten and this bracket formed connection means (24, 25, 34, 35) disposed is.
10. Transport and/or storage device for workpieces after one of the preceding claims 1 to 9, characterised in that the cross beam (4) a longitudinal support (5) exhibit, is releasable disposed at which the holding means (6).
11. Transport and/or storage device for workpieces after one of the preceding claims 6 to 10, characterised in that the cross beam (4) by means of a Andocksystem (19) with index pins and tensioners releasable with the single brackets (23, 33) of the support units (2, 3) connected are.
12. Transport and/or storage device for workpieces after at least one of the preceding claims 3 to 11 characterised in that at least one Führungsschlitten (21, 22, 31, 32) each support unit (2, 3) with a drive unit (20a, 20b, 30a, 30b) connected are.
13. Transport and/or storage device for workpieces after at least one of the preceding claims 3 to 12 characterised in that of everyone Führungsschlitten (21, 22, 31, 32) of the support units (2, 3) with a single drive unit (20a, 20b, 30a, 30b) connected are.
14. In each case transport and/or storage device for workpieces according to claim 12 or 13 characterised in that the drive unit (20a, 20b, 30a, 30b) Führungsschlitten (21, 22, 31, 32) of the guide formed between one in the Führungsschlitten (21, 22, 31, 32) (29a, 29b, 39a, 39b) and a guide strip received therein (7a, 7b) of the corresponding guide means (7, 8) disposed are.
15. Transport and/or storage device for workpieces after at least one of the preceding claims 12 to 14, characterised

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in that the single drive units (20a, 20b, 30a, 30b) Führungsschlitten (21, 22, 31, 32) of the linear drives with servomotors and/or hydraulic drives and/or servo-hydraulic drives and/or linear motors exhibit.

16. Transport and/or storage device for workpieces after at least one of the preceding claims 12 to 15, characterized by at least a controller, whereby the drive units are Führungsschlitten (20a, 20b, 30a, 30b) with the controller the connected.

17. Transport and/or storage device for workpieces according to claim 16, characterised in that the controller are more programmable.

18. Transport and/or storage device for workpieces after one of the preceding claims of 16 or 17 characterized by a memory means in that courses of motion for Führungsschlitten (21, 22, 31, 32) and/or the prolonged-variable supporting means (28, 38) the stored are, whereby the memory means with the controller is connected.

19. Transport and/or storage device for workpieces after at least one of the preceding claims 16 to 18 characterized by a direct or indirect acting measuring system to the determination of a position at least one Führungsschlitten (21, 22, 31, 32) and/or a length of the prolonged-variable supporting means (28, 38), whereby the measuring system with the controller is connected.

20. Transport and/or storage device for workpieces after at least one of the preceding claims 6 to 19, characterised in that each support unit (2, 3) two Führungsschlitten (21, 22, 31, 32) exhibit, whereby in each case first Führungsschlitten (22, 32) of the support unit (2, 3) with the bracket (23, 33) of this support unit (2, 3) over connection means (25, 35) and second Führungsschlitten (21, 31) of the support unit (2, 3) with the bracket (23, 33) of this support unit (2, 3) over connection means (24, 34) and prolonged-variable supporting means (28, 38) connected are.

21. In each case transport and/or storage device for workpieces after at least one the preceding claims 3 to 20, characterised in that Führungsschlitten (21, 22, 31, 32) one the support units (2, 3) with a driving device (20a, 20b, 30a, 30b) connected and along a common guide rail (7, 8) are more displaceable.

22. Transport and/or storage device after at least one of the preceding claims 1 to 21 characterised in that a movement curve for a movement of the cross beam (4) as function of a misalignment Führungsschlitten (21, 22, 31, 32) and/or a length and/or a length variation of the prolonged-variable supporting means (28, 38) defined are.

23. Transfer system for workpieces with several transportation and/or storage devices after at least one of the preceding claims, whereby the transportation and/or storage devices are by means of Führungsschlitten of the support units the mechanical or electric connected with one another.

24. Transfer system for workpieces characterised in that an electric interconnecting Führungsschlitten of the support units by means of a controller provided is.